ABSTRACT OF THE DISCLOSURE

Passive Optical Resonator with Mirror Structure Suppressing Higher Order Transverse Spatial Modes

An optical resonator is designed to suppress higher order transverse spatial modes. Higher order transverse modes in the inventive optical resonator are forced to be unstable, and ultimately achieving single transverse mode resonator operation. Specifically, the mirror shape or intracavity lens profile is tailored to bound the lower order modes while rendering the higher order modes unstable. This has application in MEMS/MOEMS devices by reducing side mode suppression ratio (SMSR) dependence on alignment tolerances, for example.